Living Well

IN LOUISIANA

As Elderly Population Grows, Good Nutrition and Exercise Become Key to Better Health

There is no end in sight to our focus on the baby boom generation, even as we approach the 21st century. Baby boomers will be a key factor in the coming "agequake," when the elderly will comprise a much larger share of the population. In 1980, about one in 10 persons were 65 or older. By 2030, the 65 and older will number one in five. The first "boomers" will reach age 65 in 2011. And more people will be living longer. According to most projections, tomorrow's 85-plus will be a fast growing group as the median age of death in the next century climbs to 84 years. That's 11 years beyond today's median lifespan of 73 years. The needs of an aging population will shape every facet of society in the next century, including nutrition.

"We don't have a good handle on nutrient performance for older people," according to Ann W. Sorenson, Ph.D., health science administrator at the National Institute on Aging (NIA). The recently-revised Recommended Daily Allowances (RDAs) do not distinguish among older adults of various ages-there is just one set of RDAs for all adults over age 50. According to Sorenson, the Food and Academy of Sciences felt it did not have enough information to go further. Nonetheless, most experts agree that the dietary needs of people in their 50s or 60s are different from people in their 70s and 80s. Speaking at The American Dietetic Association (ADA) Annual Meeting last October, Irwin B. Rosenberg, M.D., director of the USDA Human Nutrition Research Center on Aging at Tufts University, reflected on the coming demographic shift.

"The challenge we face is to maintain a higher degree of physiologic performance throughout the life cycle," Rosenberg said, "so that the individuals in our society are more independent, more mobile, more able to take care of themselves. "If we are going to achieve this," Rosenberg said, "then it is going to be extremely important that we look at those kinds of health patterns in which we can intervene. Clearly, diet and nutrition are going to be very important aspects of this approach."

Vitamin Requirements of Elderly

There are generally recognized changes in dietary needs for the elderly. Many are related to loss of lean body mass and reduced level of activity. Less muscle tissue and lower expenditure of energy result in a need for reduced caloric intake. When eating less food, the elderly must be careful to select nutritious foods so that their diminished intake will provide the nutrients they need. In general, women require fewer calories, yet have nutrient requirements similar to men, and must be especially mindful of their food choices. Normal changes associated with aging result in higher requirements for some nutrients such as vitamin D, which is necessary for proper calcium absorption. The elderly typically get less exposure to the sun and have reduced capacity for skin synthesis of vitamin D, a major source of this nutrient.

Reduced intakes as well as lower absorption and metabolism of vitamin D and calcium are among the many factors related to loss of bone mineral. This leads to susceptibility to fractures and related problems, including morbidity and mortality. The elderly also seem to require more vitamin B6, and may be more sensitive to its depletion. Neurolgic and immunologic effects may become apparent, although they are reversible with supplementation. As many as 30 percent of people at age 65 develop atrophic gastritis, the inability to produce stomach acid, according to Rosenberg. This leads to impaired absorption of certain important nutrients, including folic acid, calcium, iron and vitamin B12. He estimated that by the age of 80, up to 40 percent of persons develop atrophic gastritis, which has a significant impact on the bioavailability of some key nutrients.

With vitamin A, however, the body's slowdown with age means that less of the nutrient is better, not more. The elderly clear vitamin A from their blood and tissue more slowly, meaning they can be more susceptible to vitamin A toxicity. An over-supply of vitamin A could easily be harmful. Research into vitamins E and C, both antioxidants, may lead to new RDAs for the elderly one day. Vitamin E has shown a positive effect on the immune system in research at the USDA Center. Whether vitamin E stimulates the immune system or prevents its decline is unclear. An increased chance of developing cataracts has been associated with low vitamin C intakes in research at the USDA Center. Vitamin C's antioxidant properties may ward off potential damage by ultraviolet light, but the conclusion cannot yet be drawn. Some data also indicate a correlation between plasma vitamin C levels and the "good kind of cholesterol," HDL cholesterol.

Poor nutrition can have stark consequences for the elderly. Aging is generally associated with decline of the immune response, which may be linked with a cumulative, marginal deficiency of trace metals and vitamins, according to Gabriel Fernandes, Ph.D., at the University of Texas. Of particular interest are zinc, B vitamins, iron and other trace metals. Medications for chronic disease can affect drug-nutrient interaction, as well. These and other emerging ideas lead many to call for more definitive research into the nutritional needs of the elderly.

Staying Young

Increased physical activity in the elderly has been shown to increase life expectancy even into advanced old age. Many of the "so-called normative changes" associated with aging are not inevitable, according to William J. Evans, Ph.D., chief of the Human Physiology Laboratory at the USDA Human Nutrition Research Center. "It's the changes in muscle mass that may be triggering almost all of the other changes," Evans reported during the ADA Annual Meeting. As evidence, he cited research in which active men, subjected to bed rest for 21 days, had drops in aerobic capacity equivalent to 15 years of aging. Other similar studies reflect changes in almost every organ system and the skeleton. "All of these changes with decreased activity reflect almost precisely the kinds of very slow changes we see with advancing age," he said.

Further, when athletes aged 45 to 60 were compared with athletes in their 20s, as well as inactive men in both age groups, researcher found that loss of muscle and increase fat were not age-related. "We can see that the amount of fat they have stored is directly related to the amount of time they spend exercising," Evans said. "Age is not a co-variant at all." His research indicated this probably holds true well past the age of 60. Related research has shown aerobic exercise causes adaptations in skeletal muscle that result in substantial increases in oxidative capacity, glycogen stores, insulin sensitivity and functional capacity in the elderly.

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